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December 10, 2018

Via Electronic Filing

The Honorable Jocelyn G. Boyd
Chief Clerk/Administrator
Public Service Commission of South Carolina
101 Executive Center Drive
Columbia, SC 29210

RE: Application of Duke Energy Carolinas, LLC for Approval of Proposed Electric Transportation Pilot and an Accounting Order to Defer Capital and Operating Expenses
Docket Number 2018-321-E

Dear Ms. Boyd:

South Carolina Coastal Conservation League (“CCL”) and Southern Alliance for Clean Energy (“SACE”) (together, “Conservation Groups”) appreciate the opportunity to submit the following comments on the 2018 Duke Energy Carolinas, LLC (“DEC”) Proposed Electronic Transportation Pilot Program (the “Pilot Program”) for the Commission’s consideration.

Conservation Groups are generally supportive of the Pilot Program, while also providing some clarifying questions and recommendations for DEC and the Commission’s consideration, as described in greater detail below. Specifically, Conservation Groups submit questions related to the proposed Pilot Program regarding outreach and education plans, affordability of electric vehicles and charging stations relative to the proposed Pilot Program incentives, and factors to be considered in siting DC Fast Charging stations. Conservation Groups recommend that DEC provide information on the results of its previous electric vehicle pilot program from 2011, and that DEC periodically release data gathered in the proposed Pilot Program, including providing a report at the conclusion of the Pilot Program.

It is Conservation Groups’ understanding that the Office of Regulatory Staff (“ORS”) plans to propose that it initiate a stakeholder process with a technical working group on or before January 30, 2019, with a report due to the Commission after its conclusion addressing areas of consensus and details on any issues in dispute for Commission consideration. Conservation Groups support this proposal, and recommend that it be approved. In addition to considering the proposed Pilot Program, Conservation Groups also suggest that this stakeholder working group recommend proactive goals or targets so that EVs will continue to benefit customers both during and after the Pilot Program. Conservation Groups submit the following more detailed comments for the stakeholder group, Commission, and DEP’s consideration.

I. Introduction and Background

EV ownership is growing. Over 800,000 EVs have been sold in the United States to date.¹ As of September 2018, 234,635 EVs were sold this year alone, which is more than were sold in all of 2017.² Predictions about the long term sales of EVs show that they could make up 35% - 65% of sales by 2050, with higher percentages if oil prices increase or technology costs decrease.³ The electrification of our transportation sector comes with potentially significant benefits for consumers, public health, and the state's environment. Consumers will see a decrease in transportation costs (particularly fuel costs), and citizens will reap the public health benefits of less pollution in the air and decreased oil consumption. In addition, as DEC recognizes in its program application, increased adoption of EVs in South Carolina could put downward pressure on electricity rates "if charging load can be effectively managed."⁴ M.J. Bradley & Associates has estimated "cumulative net benefits from greater [EV] use in the state will exceed \$2.7 billion state-wide by 2050."⁵ Conservation Groups believe that the Commission's oversight can help ensure this transition occurs in a way that maximizes benefits to the electric system and to the people of South Carolina.

For these reasons, Conservation Groups strongly support the transition to an electrified transportation sector, and respectfully encourage the Commission and DEC to reduce further barriers to electric vehicle adoption and ownership in the state. Conservation Groups therefore ask the Commission to consider approving the Pilot Program subject to DEC providing responsive information in reply comments to questions presented below and pending the outcome of ORS's recommended stakeholder workshop and any program modifications recommended in that process. In addition, Conservation Groups ask the Commission, DEC, and the proposed stakeholder group to take certain current and future recommendations into consideration.

II. Questions and Requests for Clarification about the Pilot Program

A. DEC should clarify its education and outreach programs for the Pilot Program.

DEC should clarify its education and outreach programs for the Pilot Program. One of the main barriers to increased EV adoption is a lack of knowledge and awareness. Utilities, with their pre-established customer relationships, "can educate consumers and raise awareness by

¹ Inside EVs, Monthly Plug-In EV Sales Scorecard, <https://insideevs.com/monthly-plug-in-sales-scorecard/>.

² *Id.*; Inside EVs, October 2018 U.S. Plug-In EV Sales Report Card, <https://insideevs.com/october-2018-plug-in-electric-vehicle-sales-report-card/>.

³ CITIZENS UTILITY BOARD, THE ABC'S OF EVs, <https://citizensutilityboard.org/wp-content/uploads/2017/04/2017-The-ABCs-of-EVs-Report.pdf>; *See also*, Rissman, Jeffrey, THE FUTURE OF ELECTRIC VEHICLES IN THE U.S., ENERGY INNOVATION, http://energyinnovation.org/wp-content/uploads/2017/09/2017-09-13-Future-of-EVs-Research-Note_FINAL.pdf at 3 (Sept. 2017).

⁴ 2018 DEC EV Pilot Application at 2.

⁵ 2018 DEC EV Pilot Application, Exhibit A at ii.

promoting the benefits of electricity as a transportation fuel.”⁶ Utilities also can leverage existing relationships with major employers and multi-unit dwelling managers to encourage education and charging access in these areas.⁷ Conservation Groups appreciate that DEC will conduct market education and outreach for its Pilot Program and will leverage relationships with agencies and organizations, to include environmental NGOs. How does DEC plan to conduct their marketing and outreach programs? Who does DEC plan to target? Conservation Groups request more clarity on the purpose, plan, and audience for education funding.

B. Does DEC have any research or analyses to indicate that the \$500 rebate and quarterly payment are sufficient to encourage residential homeowners to install charging infrastructure?

Residents must own or lease qualifying equipment to be eligible for the \$500 rebate and the \$41 quarterly load control payment. A residential Level 2 charging station with “smart charging” capabilities can cost over \$1,200 for the equipment and installation.⁸ Have any studies or analyses been conducted by DEC or are any being relied on by DEC as the basis for the \$500 rebate level? Tracking the success rate (customer response) of this aspect of the Pilot Program might warrant re-evaluation of the rebate level.

JEA, located in northeast Florida, for example, offers a rebate of up to \$1,000 (depending on battery size) to customers that purchase or lease a plug-in electric or hybrid vehicle.⁹ Gulf Power in northwest Florida offers a \$750 rebate to residential customers for the purchase of an EV charging station.¹⁰ FirstEnergy in West Virginia offers residential customers the opportunity to lease a Level 2 EV charging station for a monthly rate of \$39.99 for three years.¹¹ Installation, repair, and a replacement guarantee for the duration of the agreement are included in the lease. Conservation Groups would like to know what data DEC is relying on that indicate that the \$500 rebate and quarterly payment will encourage residential homeowners to participate and invest in charging infrastructure.

⁶ Atlas Public Policy, Advancing Industry Collaboration In The EV Market, https://atlaspolicy.com/wp-content/uploads/2016/11/2016-11-07_Advancing_Industry_Collaboration_in_the_EV_Market.pdf at 3 (Nov. 2016).

⁷ *Id.* at 7 (Nov. 2016).

⁸ MJB&A & Georgetown Climate Center, Utility Investment in Electric Vehicle Charging Infrastructure: Key Regulatory Considerations, https://www.georgetownclimate.org/files/report/GCC-MJBA_Utility-Investment-in-EV-Charging-Infrastructure.pdf at 11 (Nov. 2017).

⁹ JEA, Electric Vehicle Incentives, https://www.jea.com/ways_to_save/residential_rebates/electric_vehicle_incentives/.

¹⁰ Gulf Power, Electric Vehicles, available at <https://www.gulfpower.com/residential/savings-and-energy/rebates-and-programs/electric-vehicles>.

¹¹ SmartMart By FirstEnergy, Electric Vehicle Charger Lease, <https://www.smart-mart.com/smartmart/en/Home-Products/Smart-Home/Electric-Vehicle-Charger-Lease/p/FEP-S0000225>.

C. Are the school bus and public transit rebates sufficient to encourage investment?

One of the main goals of the Pilot Program is to “[s]tudy how best to support public transit electrification and associated cost savings in South Carolina.”¹² For transit buses that can cost \$750,000, DEC has proposed charging station rebates of \$55,000 – a fraction of the associated cost.¹³ Similarly, for electric school buses that can cost anywhere from \$225,000 to \$365,000 (not including the cost of charging infrastructure), DEC has proposed school bus rebates of \$125,000. Because a diesel bus can be purchased for approximately \$75,000,¹⁴ the proposed rebate may be insufficient to encourage or enable investment in electric school buses. As an example from another jurisdiction, school districts purchasing electric school buses through a New York program were only required to pay 1/3 of the cost (the same cost as a diesel bus).

If DEC has conducted research or has information that helped inform the proposed rebate amounts, Conservation Groups request that DEC share this information in reply. Are there additional ways to encourage schools and transit providers to purchase electric buses beyond rebates, such as through on-bill financing programs, time-of-use rates, or by providing the necessary infrastructure?

D. What factors will DEC take into account in siting locations for its DC Fast Charging Stations?

Conservation Groups support DEC’s proposal to install DC Fast Chargers along key corridors in South Carolina and recommend that the DC Fast Chargers program be revised as a make-ready program, meaning that DEC would own and operate the equipment up to the charging station. The host site would control the decision as to who installs and operates the charging stations themselves. DEC should be able to compete with third-party vendors on an equal basis for the opportunity to install and operate the charging stations, and such competition will help ensure maximum financial benefit for customers. DC Fast Chargers along key corridors are important to help build customer confidence in EVs by reducing range anxiety,¹⁵ allowing long-distance road trips, and additional charging options for those without home chargers. Conservation Groups appreciate DEC’s recognition that as a utility, it should ensure that fast chargers are located such that they are available to all customers rather than “only to those of demographics or locations that are early adopters of new technology.”¹⁶ Charging

¹² 2018 DEC EV Pilot Application at 3.

¹³ Forbes, The U.S. Just Spent \$8.4M On Electric Buses, <https://www.forbes.com/sites/sebastianblanco/2018/08/31/84-million-electric-buses/#42c0bcc05e40> (Aug. 31, 2018).

¹⁴ New York Times, The Wheels on These Buses Go Round and Round With Zero Emissions, available at <https://www.nytimes.com/2018/11/12/climate/electric-school-buses.html?action=click&module=Well&pgtype=Homepage§ion=Climate%20and%20Environment> (Nov. 12, 2018).

¹⁵ “Range anxiety” is defined as “[t]he fear that a vehicle has insufficient range to reach its destination and would thus strand the vehicle's occupants, primarily used in reference to battery electric vehicles.” <http://www.yourdictionary.com/range-anxiety>

¹⁶ 2018 DEC EV Pilot Application at 13.

behavior varies between rural and urban areas.¹⁷ In 2011, DEC shared with the Commission that residential EV customers “tend to cluster,” and that in South Carolina, in Duke’s service territory, most of the adoption was in Rock Hill, Fort Mill, and the Greenville area.

Conservation Groups know that DEC has plans to co-locate its DC Fast Charging Stations with other automotive facilities to reduce installation costs, but would appreciate more clarity on location selection for its DC Fast Charging Stations. How will they be sited in relation to other fast chargers, such as those being installed by Electrify America or other third parties? What other factors are being considered (such as accessibility, proximity to high-traffic routes and rural routes – that may spur adoption)? As part of its Park and Plug Program, Duke Energy Florida focused on putting charging stations for public use in areas with broad public access, such as sites with high traffic or major transport corridors, workplaces and near multi-unit dwellings. Is DEC similarly considering siting DC fast chargers in areas with broad public access?

III. Recommendations for Duration of the Pilot Program

A. Conservations Groups support DEC’s proposal to periodically release data and publish reports on its EV pilot programs.

Data collected during pilot programs can inform the utility, the Commission, and the public about the effectiveness of the programs, whether improvements need to be made, and how to best move forward. Data can also work to dispel misconceptions about how consumers actually use their EVs. Other states have taken measures to gather data on their EV programs. For example, a pending Maryland EV portfolio includes metrics that will be tracked during the program and details about customer education and outreach strategy.¹⁸ Omaha Public Power District has also launched an EV pilot that will include customer education and will track and monitor distribution impacts. This data will be used to develop a plan for impact management “[t]hroughout the pilot and beyond.”¹⁹

DEC launched its 2011 Pilot Program with the goal of understanding how its customers charge, how they will use EVs, and the technologies involved, so that it could eventually help mitigate any cost impacts associated with EVs.²⁰ Pursuant to the 2011 Pilot Program, DEC provided “intelligent” Level 2, 240-volt charging stations and up to \$1,000 of installation fees to 150 residential customers who bought or leased a plug-in EV. In exchange, the customers authorized DEC to collect data about their charging behaviors for a two-year period.²¹ DEC

¹⁷ 2011 DEC EV Pilot Allowable Ex Parte Briefing Hearing Transcript, <https://dms.psc.sc.gov/Attachments/Matter/32b24728-5e32-4bdf-a491-9c298a8e8971> at 46 (May 24, 2011).

¹⁸ Maryland: Case No. 9478 – In the matter of the petition of the Electric Vehicle Work Group for Implementation of a Statewide Electric Vehicle Portfolio <https://www.psc.state.md.us/search-results/?keyword=9478&x.x=20&x.y=2&search=all&search=case>

¹⁹ T&DWorld, OPD EV Pilot Program Will Educate Customers, Measure system Impact, <https://www.tdworld.com/distribution/opd-ev-pilot-program-will-educate-customers-measure-system-impact> (Jun. 1, 2018).

²⁰ 2011 DEC EV Pilot Allowable Ex Parte Briefing Hearing Transcript, <https://dms.psc.sc.gov/Attachments/Matter/32b24728-5e32-4bdf-a491-9c298a8e8971> at 35 (May 24, 2011).

²¹ *Id.* at 44; *See* 2011 DEC EV Pilot, Order No. 2011-436.

agreed to provide its evaluation of baseline data collected to the Commission and the impact of the charging stations on local infrastructure to determine whether the system could support the increased demand and upgrade if needed.²² To further transparency and ensure that the current proposal is not unnecessarily duplicative, DEC should make these data publicly available or provide a rationale as to why the new data points are necessary, such as changes in trends of user behavior or EV technology that have occurred since the conclusion of the last pilot program.

Conservation Groups support DEC's proposal to periodically release data throughout the 2018 Pilot Program and to submit to the Commission a more detailed report and evaluation of charging behavior and the impact of its investments at the Pilot Program's conclusion.

The 2018 Pilot Program is being launched *in anticipation of* accelerated deployment of EV technology and potential customer benefits of increased EV adoption in South Carolina.²³ The Pilot's anticipatory nature underscores the need to establish benchmarks related to customer adoption and investment, and to publicly report throughout the 2018 Pilot Program's duration. DEC states that if they determine that the Pilot Program is ready for wider subscription, they will propose such a program to the Commission that incorporates lessons learned. Is there an established threshold that DEC anticipates would trigger that the Pilot Program is ready for wider subscription? If so, what is that threshold? To promote transparency, encourage increased interest and investment in EVs, and ensure that expenditures are made in the public interest, DEC should publicly report these data and lessons learned on a periodic basis and at the 2018 Pilot Program's conclusion.

B. The Commission should approve a proposal from ORS to initiate a stakeholder process, including a technical workshop with industry experts.

Regulators "are critical decision makers because of their ability to accelerate or slow EV deployment through policy decisions."²⁴ To address opportunities and risks involving EVs, "regulators will need a better understanding of customer behavior, business model viability, and system architecture needs...through mechanisms like pilots and more informal forums outside conventional procedural processes."²⁵ For this reason, the Commission should approve a proposal by ORS to convene a workshop with industry experts to facilitate a public discussion of opportunities, risks, and best practices across the industry regarding utility EV programs.

Commissions in other states have convened similar EV stakeholder processes and workshops. The Florida Public Service Commission convened an EV roundtable in October 2017 to discuss potential effects of EV charging on energy consumption and the state's electric grid, and future regulatory considerations. Participants included utilities, car manufacturers, and

²² 2011 DEC EV Pilot, ORS Review Letter, <https://dms.psc.sc.gov/Attachments/Matter/44be9804-07c1-45c3-3d4e31f9dd42951d> at 4, 16 (April 11, 2011).

²³ 2018 DEC EV Application at 2.

²⁴ Gold & Goldenberg, Rocky Mountain Institute, electricity Innovation Lab, Driving Integration, Regulatory Responses to Electric Vehicle Growth, https://rmi.org/wp-content/uploads/2017/04/eLab_driving_integration.pdf at 7 (2016).

²⁵ *Id.* at 13.

EV charging companies.²⁶ A pending Maryland EV docket also includes a Commission-convened work group focused on the impacts of the program, the utilities' commitment to conducting business in a transparent and public manner, and a potential joint procurement across the participating utilities to secure an independent, third-party to evaluate, measure, and verify data.²⁷ A 2018 New York Public Service EV docket includes a technical conference "to solicit stakeholder input, identify issues to be addressed, and to establish the scope of a subsequent Staff whitepaper."²⁸ Stakeholder input was so high that the technical conference reached capacity for in-person attendance in less than sixty days.²⁹ A working group was also convened to discuss rate design principles for EV charging stations. An agenda was published beforehand and post-meeting comments were sought regarding issues discussed.³⁰ The New York Commission declared "[w]e do not need to wait for load forecasts to exceed the electric utilities' capacity before taking action here; as prudent regulators, we direct the Department of Public Service Staff to collaborate with stakeholders to identify and address what immediate and long-term actions will best support EV market growth."³¹

The Commission should consider taking a similar inclusive and proactive approach in South Carolina and approve a proposal by ORS that it initiate a stakeholder process with a technical working group on or before January 30, 2019, with a report due to the Commission after its conclusion addressing areas of consensus and details on any issues in dispute for Commission consideration. In addition to addressing the proposed design and details of the DEC Pilot Program, this stakeholder group could also work to propose broader goals or targets for EV programs in South Carolina, including but not limited to the DEC Pilot Program. Establishing proactive goals or targets for EV adoption to benefit customers may help accelerate EV adoption in South Carolina, thereby reducing harmful pollution and decreasing electricity rates. Goals could include, for example, an uptake target of a percentage of EVs by a certain date, or charging station coverage such as all areas of the utility's territory or the state being within a reasonable range of a charging station. These kinds of goals and targets would help guide the current proposed Pilot Program design and future expansions or new programs.

²⁶ Florida Public Service Commission, Electric Vehicle Charging Roundtable, <http://www.floridapsc.com/ElectricNaturalGas/ElectricVehicles2017> (Oct. 17, 2017).

²⁷ Maryland: Case No. 9478 – In the matter of the petition of the Electric Vehicle Work Group for Implementation of a Statewide Electric Vehicle Portfolio, <https://www.psc.state.md.us/search-results/?keyword=9478&x.x=20&x.y=2&search=all&search=case>.

²⁸ New York Case No. 18-E-0138 – Proceeding on Motion of the Commission Regarding Electric Vehicle Supply Equipment and Infrastructure, Notice of Technical Conference, <http://documents.dps.ny.gov/public/MatterManagement/CaseMaster.aspx?MatterCaseNo=18-e-0138&submit=Search> (May 25, 2018).

²⁹ *Id.*, Letter from New York Department of Public Service, Public Service Commission, Re Case No. 18-E-0138 – Proceeding on Motion of the Commission Regarding Electric Vehicle Supply Equipment and Infrastructure, <http://documents.dps.ny.gov/public/MatterManagement/CaseMaster.aspx?MatterCaseNo=18-e-0138&submit=Search> (July 13, 2018).

³⁰ *Id.*, Notice of Working Group Meeting and Request for Post-Conference Comments, <http://documents.dps.ny.gov/public/MatterManagement/CaseMaster.aspx?MatterCaseNo=18-e-0138&submit=Search> (Aug. 16, 2018).

³¹ *Id.*, Order Instituting Proceeding, <http://documents.dps.ny.gov/public/MatterManagement/CaseMaster.aspx?MatterCaseNo=18-e-0138&submit=Search> (April 24, 2018).

IV. Considerations for Future Expansion of EV Programs

A. Potential Expansions or Revisions to the Current Pilot Program

1. Load Management and Rate Design: DEC should offer time-of-use rates to incentivize off-peak charging and adoption of non-residential charging stations.

DEC should take a more active role in EV customer load management and rate design. One of the main goals of the 2018 Pilot is to study how to ensure electrification projects benefit all customers, including customers who do not own electric vehicles.³² Utilities have an important role in managing EV charging load, and regulators are charged with ensuring that rates are in the public interest. As noted by the Washington Commission, management of EV load is “essential to ensure that electric vehicle charging services provide benefits to non-participating customers, and do not undermine utility conservation efforts.”³³ According to the Regulatory Assistance Project, “[l]eft uncontrolled, EV charging risks producing longer and higher demand peaks that could create the need for upgrades to distribution infrastructure, raise electricity supply and delivery costs, and cause unnecessary air emissions.”³⁴ Therefore, it is essential that DEC manage EV charging through rate design and other mechanisms to ensure that the increase in transportation electrification is beneficial to both utility customers and the environment.

DEC should offer time-of-use (“TOU”) rates for its customers. Incentivizing EV charging during “off-peak” times when there is excess grid capacity can provide significant benefits to utilities and ratepayers by helping avoid the need for new capital investments, expensive peaking power costs, and system impacts, and by encouraging charging in an environmental and economic manner.³⁵ One electric vehicle charge can be comparable to the load of an entire home.³⁶ Without rate design signals encouraging off-peak charging, EV drivers tend to plug-in right when they get home from work, increasing demand during the evening peak. Off-peak charging rates, such as TOU rates, can work to shift demand by sending price signals to consumers. Charging on a TOU rate during off-peak hours can reduce the cost to charge an EV even further,³⁷ and have been shown to be very effective at shifting load.³⁸

In 2011, DEC shared with the Commission that, regarding residential EV use, it anticipates “that a significant or very large portion of charging is going to occur during peak

³² 2018 DEC EV Pilot Application at 3.

³³ See Washington Utilities and Transportation Commission, In the Matter of Amending and Adopting Rules in Docket UE-160799, Policy and Interpretive Statement Concerning Commission Regulation of Electric Vehicle Charging Services, <https://www.utc.wa.gov/docs/Pages/ElectricVehicleSupplyEquipment,DocketUT-160799.aspx> at 35-36 (June 14, 2017).

³⁴ Regulatory Assistance Project, Getting from Here to There: Regulatory Considerations for Transportation Electrification, <https://www.raponline.org/knowledge-center/getting-from-here-to-there-regulatory-considerations-for-transportation-electrification/> (May 2017).

³⁵ See Baumhefner, M., R. Hwang & P. Bull, *Driving Out Pollution: How Utilities Can Accelerate the Market for Electric Vehicles*, NATURAL RESOURCES DEFENSE COUNCIL, <https://www.nrdc.org/resources/driving-out-pollution-how-utilities-can-accelerate-market-electric-vehicles> at 6 (June 2016).

³⁶ *Id.* at 14.

³⁷ See eGallon, U.S. DEPARTMENT OF ENERGY, <https://energy.gov/maps/egallon> (last visited Dec. 6, 2017).

³⁸ Schey, at al., A first look at the impact of electric vehicle charging on the electric grid (May 2012).

times.”³⁹ DEC stated that rate designs or other cost-based financial incentives to promote charging at certain times would be considered only after load and behavioral data under various conditions from the 2011 Pilot group was obtained. DEC further stated that it would consult with ORS and seek approval from the Commission as appropriate of any change in the tariff that involves rate designs or other cost-based financial incentives to manage charging at certain times.⁴⁰ Since then, Conservation Groups are not aware of any DEC proposal for such tariffs to manage EV charging. The 2018 Pilot Program does “not involve a change to any of [Duke Energy]’s retail rates or prices at any time or require any change in any Commission rule, regulation, or policy.”⁴¹ Other utilities in the Southeast have offered TOU rates to incentivize off-peak charging. For instance, both Georgia Power and Alabama Power offer discounted residential EV rates for customers that charge during off-peak hours.⁴² Cobb EMC in Georgia offers a NiteFlex rate that allows free charging during super off-peak hours up to 400 kWh per month.⁴³

Thoughtful rate design is also important for public charging, due to the negative impact of demand charges on these services. Commercial electricity customers typically pay demand charges, which can account for 50 percent or more of their monthly bill.⁴⁴ For commercial customers with fast charging EV infrastructure, demand charges can account for over 90 percent of their electricity costs.⁴⁵ Georgia Power offers TOU rates for off-peak and super off-peak usage for certain commercial customers.⁴⁶ Alabama Power also offers a Business Electric Vehicle Time-of-Use (BEVT) rate for electricity purchased to charge EVs used for fleet purposes.⁴⁷ Conservation Groups recommend that DEC also offer TOU rates for its non-residential customers, electric school buses, and public transit buses to encourage off-peak

³⁹ 2011 DEC EV Pilot Allowable Ex Parte Briefing Hearing Transcript,

<https://dms.psc.sc.gov/Attachments/Matter/32b24728-5e32-4bdf-a491-9c298a8e8971> at 15 (May 24, 2011).

⁴⁰ 2011 DEC EV Pilot, ORS Review Letter, <https://dms.psc.sc.gov/Attachments/Matter/44be9804-07c1-45c3-3d4e31f9dd42951d> at 2 (April 11, 2011).

⁴¹ 2018 DEC EV Pilot Application at 5.

⁴² See Georgia Power, Plug-In Electric Vehicle, Residential, Billing & Rate Plans, Pricing & Rate Plans, <https://www.georgiapower.com/residential/billing-and-rate-plans/pricing-and-rate-plans/plug-in-ev.html>; Georgia Power, Time of Use – Plug-In Electric Vehicle Schedule: ‘TOU-PEV-6’, <https://www.georgiapower.com/content/dam/georgia-power/pdfs/residential-pdfs/residential-rate-plans/2.30-tou-pv.pdf> (Georgia Power’s EV on-peak rate is 20 cents/kWh; whereas its off-peak EV rate is 7 cents/kWh and its super off-peak rate is only 1 cent/kWh); Rate Rider PEV Plug-In Electric Vehicle (Optional), Alabama Power (By order of the Alabama Public Service Commission dated March 6, 2012 in Docket # U-5055); *Alternative Fuels Data Center*, U.S. DEPARTMENT OF ENERGY, <https://www.afdc.energy.gov/laws/all?state=AL> (last visited Dec. 7, 2017); <http://www.alabamapower.com/content/dam/alabamapower/Rates/pev.pdf>. Other states outside of the southeast that offer similar incentives include Indiana, Michigan, Minnesota, and Pennsylvania.

⁴³ Cobb EMC, NiteFlex rate, <https://cobbemc.com/content/niteflex>.

⁴⁴ CERES, ACCELERATING INVESTMENT IN ELECTRIC VEHICLE CHARGING INFRASTRUCTURE, https://www.ceres.org/sites/default/files/reports/2017-12/Ceres_PEVinfraAnalysis_120617.pdf at 6, 15 (Nov. 2017).

⁴⁵ Rocky Mountain Institute, EVGO Fleet and Tariff Analysis, Phase 1: California, https://d231jw5ce53gcq.cloudfront.net/wpcontent/uploads/2017/04/eLab_EVgo_Fleet_and_Tariff_Analysis_2017.pdf (March 2017).

⁴⁶ Georgia Power, Commercial Time-of-Use Rate, available at <https://www.georgiapower.com/content/dam/georgia-power/pdfs/business-pdfs/rates-schedules/medium-business/4.20-tou-mb.pdf>.

⁴⁷ Rate BEVT Business Electric Vehicle – Time-Of-Use, Alabama Power (By order of the Alabama Public Service Commission dated Oct. 3, 2000 in Informal Docket # U-4226), <https://www.alabamapower.com/content/dam/alabamapower/Rates/BEVT.pdf>.

charging. DEC can also implement certain rate designs for the DC charging stations to encourage off-peak charging.

Because TOU rates have been proven effective throughout the country and are offered to Duke Energy Progress, LLC's South Carolina residential and small general service customers, there is no need for DEC to conduct another pilot project prior to offering TOU rates. Conservation Groups recommend that DEC offer TOU rates to incentivize off-peak charging.

B. Additional Components for Future EV Programs

The 2018 Pilot is composed of four programs: 1) the Residential EV Charging Program; 2) the EV School Bus Charging Program; 3) the EV Transit Bus Charging Program; and 4) the Direct Current ("DC") Fast Charging Station Program. One of the main goals of the 2018 Pilot Program is to study the effects of charging multiple types of electric vehicles and assess the market adoption of multiple types of EVs.⁴⁸ However, the Pilot Program leaves out important elements that are necessary to accelerate the adoption of EVs in an equitable and comprehensive manner. DEC should include components in future EV programs or revisions to the Pilot Program that help spread the benefits of EVs to underserved communities, multi-family dwellings, and other non-residential spaces such as workplaces.

To this point, where possible, the programs recommended below should be designed as make ready infrastructure installation. Conservation Groups are willing to work with DEC and other stakeholders to develop the standards and cost recovery mechanisms necessary to ensure that such expenditures are in the public interest.

1. DEC should ensure that charging infrastructure is installed in underserved communities and incentives are developed to target low-income populations.

DEC should consider providing incentives in future programs to establish charging infrastructure in low-income communities, which have traditionally been hardest hit by air pollution and most underserved by the EV market.⁴⁹ Low-income communities "typically experience more severe health effects from vehicle tailpipe emissions because they are often located near major roadways."⁵⁰ Promoting EV use in these areas helps alleviate the burden and improve the quality of life for residents.⁵¹ If DEC implements a Level 2 charging infrastructure initiative, it should commit to installing at least 10% of the charging stations in low-income areas. As part of its Park and Plug Program (a pilot program through December 2022 to bring EV charging stations to communities), Duke Energy Florida committed to locating 10% of the pilot's 530 EV charging stations in income-qualified communities.

⁴⁸ 2018 DEC EV Pilot Application at 3; 5.

⁴⁹ Scientific American, Electric Car Advocates Want to Expand Access to Low-Income Communities, <https://www.scientificamerican.com/article/electric-car-advocates-want-to-expand-access-to-low-income-communities/> (June 20, 2018).

⁵⁰ *Id.*

⁵¹ *Id.*

DEC should also look into incentives which can expand EV access to low-income communities. Supportive programs can provide benefits to low-income communities such as increasing access to transportation, supplementing public transit options, and improving local air quality. There are a variety of programs that could benefit disadvantaged communities, such as EV financing assistance programs, electric car-sharing and ride-hailing programs, and rebates for low-income customers. Georgia Power offers assistance to senior citizens with low-income that purchase EVs. Once certified by the utility, qualifying customers are eligible “for a monthly discount of up to \$18.00 monthly at their primary residence...applied to the customer’s pre-fuel monthly bill amount.”⁵²

To further the goals of EV access for all and a more comprehensive understanding of customers’ charging and use behavior, Conservation Groups recommend that DEC consider broadening its focus with regard to EVs to include these components.

2. DEC should implement a program to encourage increased public charging stations.

DEC should implement a program to encourage charging stations at multi-family dwellings. One of the major challenges for EV adoption is that for drivers who live in multi-unit dwellings, it can be difficult to access EV charging stations because parking is often shared and the installation cost can be expensive. For renters, it may not make financial sense to invest in a charging station. To break down these barriers and encourage more widely spread EV adoption, charging stations should be deployed at multi-family dwellings. Utility guidance and support (including rebates) “lowers the bar for building owners/managers and increases the likelihood that residents will be able to successfully petition management” to invest in EV charging stations on-site.⁵³ The Sacramento Municipal Utility District “offers rebates to multi-family housing complexes installing chargers – up to \$1,500 for up to 20 Level 2 EV charging stations or up to \$100,000 for a Level 3 EV charging station.”⁵⁴

DEC should also consider implementing a program to encourage workplace charging stations. As more South Carolinians choose EVs, the demand for charging stations outside of the home increases. Lack of workplace charging stations and other public stations are perceived barriers to EV adoption because of range anxiety. Having workplace chargers means that EV drivers can commute to work, charge, and leave work with a full battery for the commute home. Workplace charging saves employees time and money on commuting and leads to increased

⁵² Georgia Power, Time of Use – Plug-In Electric Vehicle Schedule: ‘TOU-PEV-6’, <https://www.georgiapower.com/content/dam/georgia-power/pdfs/residential-pdfs/residential-rate-plans/2.30-tou-pv.pdf> (“To qualify, the customer must be 65 years of age or older with total household income of 200% of the federal poverty level or less per year, provided that the electric service account is individually metered and in said customer’s name.”).

⁵³ Clean Technica, EV Charging At Multi-Family Housing – Solutions & Leaders In USA, <https://cleantechnica.com/2018/05/05/ev-charging-at-multi-family-housing-solutions-leaders-in-usa-cleantechnica-report/> (May 5, 2018).

⁵⁴ Sacramento Municipal Utility District, Business Electric Vehicles, Multi-family Charging Incentive, <https://www.smud.org/en/Going-Green/Electric-Vehicles/Business>.

employee satisfaction.⁵⁵ Benefits of workplace charging also include the ability to offer EV charging to customers and workplace-owned vehicle fleet; reductions in carbon emissions; and increased customer traffic while customers wait for their vehicle to charge.⁵⁶ Workplace charging could also enable someone without convenient charging at home to purchase an EV, thereby opening the door to a broader range of EV consumers.⁵⁷

To encourage businesses to take measures to attract customers, employees, and tenants that own EVs, Austin Energy in Texas offers rebates to its commercial customers of up to 50% of the cost to install approved Level 2 charging stations and/or Level 1 outlets.⁵⁸ The customer, or “Station host,” pays for the equipment, installation, and repair, if any, less rebates.⁵⁹ Austin Energy pays for any ongoing network licensing fees. Available rebates range from \$10,000 (for DC Fast Charging Stations) to \$1,000 (for Level 1, 120V outlets in parking areas).⁶⁰

V. Conclusion

Conservation Groups respectfully request additional information from DEC and support ORS’s recommendation for a stakeholder process, while also generally supporting DEC’s proposed Pilot Program due to the many benefits associated with increased investment and adoption of EVs, and a shift from petroleum to electricity to fuel vehicles. Conservation Groups request that the Commission approve ORS’s proposal to initiate a stakeholder process with a technical working group on or before January 30, 2019, with a report due to the Commission after its conclusion addressing areas of consensus and details on any issues in dispute for Commission consideration. Conservation Groups would further appreciate DEC addressing in reply comments and the stakeholder working group the questions and requests for clarification outlined in these comments. Conservation Groups request that DEC, the Commission, and the stakeholder group consider current and future recommendations related to potential expansions of the Pilot Program and EVs more generally in South Carolina.

⁵⁵ Reichmuth, David, Union of Concerned Scientists, Workplace Charging: Good for Business and a Chance for Business to do Good, <https://blog.ucsusa.org/dave-reichmuth/workplace-charging-good-for-business-and-a-chance-for-business-to-do-good-539> (May 16, 2014).

⁵⁶ Orlando Utilities Commission, Commercial EV Charging Service, <https://www.ouc.com/commercial-ev-charging-service>.

⁵⁷ Reichmuth, David, Union of Concerned Scientists, Workplace Charging: Good for Business and a Chance for Business to do Good, <https://blog.ucsusa.org/dave-reichmuth/workplace-charging-good-for-business-and-a-chance-for-business-to-do-good-539> (May 16, 2014).

⁵⁸ Austin Energy, Plug-In Austin, Workplace Charging, <https://austinenergy.com/ae/green-power/plug-in-austin/workplace-charging> (“The maximum rebate depends on the equipment you select and if the station is in an existing or new parking area.”).

⁵⁹ *Id.*

⁶⁰ Austin Energy, Plug-In Everywhere, Workplace, Retail, and Multifamily Charging Station Rebate Application and Agreement, <https://austinenergy.com/wcm/connect/80b1b4cf-410e-4fc8-b2e3-ab07a2b55097/2017RebateAppandAgreement.pdf?MOD=AJPERES&CVID=IO4heIS&CVID=IO4heIS&CVID=IO4heIS>.

Please contact me if you have any questions concerning this filing.

Sincerely,

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